

THE FAUNA OF KANGAROO ISLAND, SOUTH AUSTRALIA.

(Under the aegis of the Fauna and Flora Board.)

No. 1.—THE CRUSTACEA.

By HERBERT M. HALE, Zoologist, South Australian Museum.

(*Contribution from the South Australian Museum.*)

[Read October 13, 1927.]

The species listed herein were taken on the shores of Kangaroo Island, or in the vicinity. Sir Joseph Verco, when dredging in Investigator Strait, operated off Cape Borda, off the north-western coast of the island, etc. A few species were dredged near the island by the F.I.S. "Endcavour," and were dealt with by Rathbun, Chilton, and Schmitt,⁽¹⁾ while Tattersall recently recorded two opossum-shrimps.⁽²⁾ Many of the Crustacea enumerated were obtained during visits of officers of the Fauna and Flora Board and of the Museum. In 1926, Mr. N. B. Tindale and the author spent a month on the island, and some days were devoted to marine collecting on the north and south coasts. The Bay of Shoals, on the north coast, proved a fertile collecting ground; this bay is well protected and extremely shallow, so that at low tide a huge area of mud flat is exposed.⁽³⁾ The original site of the township of Kingscote is at Reeves' Point, on the shore of the Bay; the township at Beare's Point, a mile to the south, was established in 1883 and named Queenscliffe, but for about twenty-three years this newer settlement has been known as Kingscote.

Order STOMATOPODA.

Family SQUILLIDAE.

LYSIOSQUILLA PERPASTA, Hale.

Beare's Point (type locality).

Order DECAPODA.

Family PENEIDAE.

PENEUS LATISULCATUS, Kishinouye.

Bay of Shoals (C. E. Ewens); off Marsden Point, 17 fath. ("Endeavour").

The colouration of a living specimen was as follows:—Semi-translucent, the whole body lightly dotted with violet; rostrum and antennal scales streaked and spotted with violet. Median ridge of fourth to sixth pleon segments, and median ridges of telson, almost black, narrowly margined with yellow. Posterior parts of branches of uropods blue, anterior portions delicate green; marginal hairs orange. Legs and pleopods tinged with pink; greater part of merus and carpus blue in the last three pairs of legs.

Family SYNALPHEIDAE.

CRANGON VILLOSUS (Olivier).

Beare's Point, in crevices on limestone reef (W. H. Anderson).

(1) Biol. Res. Endeavour, v., pt. 1, 1918; v., pt. 2, 1921; v., pt. 3, 1923; and v., pt. 6, 1926.

(2) Tatt., Rec. S. Austr. Mus., iii., 1927, pp. 242 and 249.

(3) Hale, S. Austr. Nat., vii., 1926, p. 70, fig. 1.

CRANGON PRAEDATOR (de Man).

Beare's Point (Capt. Brown and A. Zietz).

CRANGON EDWARDSI (Audouin).

Bay of Shoals, in burrows in soft mud (Hale and Tindale).

Even this small species can snap its large chela with surprising loudness. When a couple of specimens were placed in a bottle of sea-water the sharp clicks which they produced conveyed the impression that the glass had suddenly cracked. A very similar sound was made by sharply rapping the vessel with a metal tool.

CRANGON NOVAE-ZELANDIAE (Miers).

Beare's Point, under stones (A. Zietz, Hale and Tindale).

SYNALPHEUS MACCULLOCHI (Coutière).

Beare's Point, under stones (Hale and Tindale).

BETAEUS AUSTRALIS, Stimpson.

Beare's Point, under stones (Hale and Tindale).

These examples were purplish-brown dorsally, with the sides of the body and tips of the uropoda white.

Family HIPPOLYTIDAE.

ALOPE AUSTRALIS, Baker.

Smith's Bay (type loc., R. Baker); north coast (W. H. Baker).

HIPPOLYTE TENUIROSTRIS (Spence Bate).

Caradina tenuirostris, S. Bate, Proc. Zool. Soc., 1863, p. 501, pl. xl, fig. 4.

Caridina tenuirostris, Hasw., Cat. Austr. Crust., 1882, p. 183.

Hippolyte tenuirostris, Halc, Crust. S. Austr., 1927, p. 51, fig. 43.

Bay of Shoals, $\frac{1}{2}$ fath., amongst *Posidonia* (Hale and Tindale).

The rostrum of this small species is slender, with two or three teeth (almost always three) on the upper margin, and usually one or two on the lower edge near

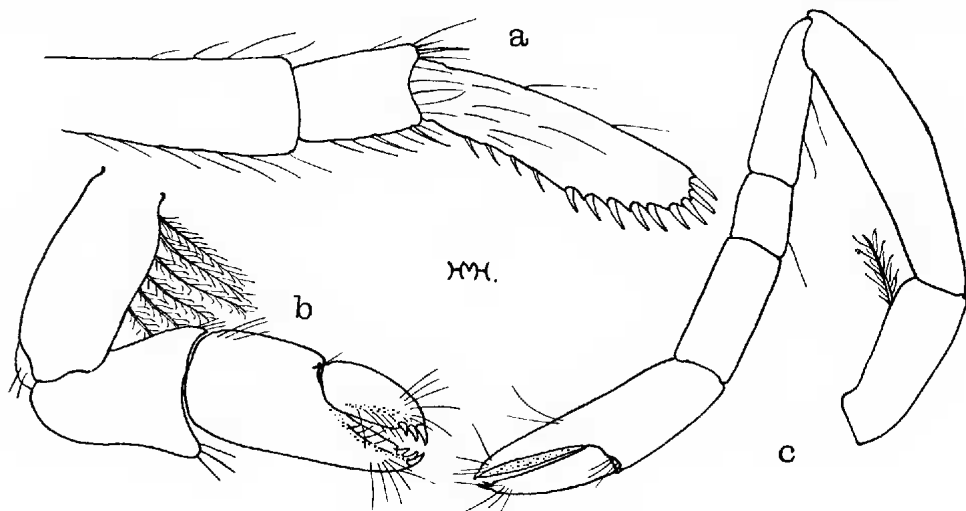


Fig. 1.

a, Third maxilliped; b, first leg, and c, second leg of *Hippolyte tenuirostris* (x 60).

the apex; sometimes ventral teeth are entirely absent. The abdomen is humped at the third segment, this geniculation being accentuated in preserved examples. The arm of the first peraeopods is about as long as the hand, which is longer than the wrist (36:26); the dactylus is slightly shorter than the palm. The wrist of the second legs is longer than the arm, with the proportions of the first, second, and third joints, 27:12:22; the hand is somewhat longer than the second and third joints of the wrist together, with the dactylus almost as long as the palm. The largest specimen examined is 12 mm. in length.

Family PALAEMONIDAE.

LEANDER INTERMEDIUS, Stimpson.

Bay of Shoals and Beare's Point, amongst weed near shore (Hale and Tindale).

LEANDER SERENUS, Heller.

Bay of Shoals, amongst weed near shore (Hale and Tindale); Vivonne Bay, in rock pools (F. Wood Jones and E. R. Waite).

PALAEMON AUSTRALIS, Ortmann.

Fresh-water on Kangaroo Island, no definite locality (A. Zietz).

Family PALINURIDAE.

JASUS LALANDII (M. Edwards).

Vivonne Bay (Hale and Tindale).

Family PORCELLANIDAE.

PORCELLANA DISPAR, Stimpson.

Porcellana dispar, Stimps., Proc. Acad. Nat. Sci. Philad., x., 1858, p. 242 (80), and Smithson, Misc. Coll., xlix., 1907, p. 190, pl. xxiii., fig. 3; Hasw., Cat. Austr. Crust., 1882, p. 149; Miers, Zool. "Alert," 1884, p. 275, pl. xxx., fig. C; McCull., Proc. Linn. Soc. N.S. Wales, xxxi., 1906, p. 40; Rath., Arkiv. f. Zool., K. Svenska Vet.-Akad., xvi., No. 23, 1924, p. 31; Hale, Crust. S. Austr., 1927, p. 82, fig. 79.

Porcellana rostrata, Baker, Trans. Roy. Soc. S. Austr., xxix., 1905, p. 260, pl. xxv., figs. 1, 1a and 1b.

Investigator Strait, 17 fath. (Sir J. Verco); Kangaroo Island (W. H. Baker).

Mr. Baker now considers that his *P. rostrata* cannot be specifically separated from *P. dispar*.

Family AXIIDAE.

AXIUS (NEAXIUS) PLECTORHYNCHUS, Strahl.

Beare's Point, under stones on reef (Hale and Tindale).

As previously noted,⁽⁴⁾ two varieties occur; both were taken on the reef.

Family CALLIANASSIDAE.

UPOGEBIA SIMSONI (Thomson).

Emu Bay (R. Baker); Beare's Point (Hale and Tindale); Vivonne Bay (F. Wood Jones and E. R. Waite).

At Beare's Point this species was found burrowing deeply in the sand where pools were left by the receding tide.

UPOGEBIA (GERIOPSIS) BOWERBANKII, Miers.

Investigator Strait and Backstairs Passage (Sir J. Verco).

(4) Hale, Crust. S. Austr., 1927, p. 84.

Family PAGURIDAE.

PAGURISTES FRONTALIS (M. Edwards).

Bay of Shoals and Beare's Point (Hale and Tindale); north coast (W. H. Baker and A. Zietz).

PAGURISTES SULCATUS, Baker.

Beare's Point (Fox and Wiese).

Family DROMIIDAE.

CRYPTODROMIA OCTODENTATA (Haswell).

Bay of Shoals (Hale and Tindale); American Beach (M. Le Ray); off Marsden Point, 17 fath., and off Sanders Bank, 28 fath. ("Endeavour").

In the Bay of Shoals small examples, without sponge or other cloak, were found in between large masses of Ascidians. One specimen taken elsewhere in the Bay, and of approximately the same size (about three-fourths of an inch in breadth), carried a piece of *Ulva* over its back.

DROMIDIOPSIS EXCAVATA (Stimpson).

Off Marsden Point, 17 fath. ("Endeavour").

DROMIA BICAVERNOSA, Zietz.

Hog Bay (type loc., H. Bates and A. Rumball).

PETALOMERA LATERALIS (Gray).

Beare's Point, under stones on reef (Hale and Tindale).

Family HYMENOSOMATIDAE.

HALICARCINUS OVATUS, Stimpson.

Bay of Shoals and Beare's Point, on Algae in shallow water (Hale and Tindale); Vivonne Bay (F. Wood Jones and E. R. Waite).

HALICARCINUS ROSTRATUS (Haswell).

North coast of Kangaroo Island (A. Zietz).

ELAMENA (TRIGONOPLEX) UNGUIFORMIS LONGIROSTRIS, McCulloch.
North coast (coll. ?).

Family MAJIDAE.

NAXIA AURITA (Latreille).

Beare's Point (Hale and Tindale); Vivonne Bay (F. Wood Jones and E. R. Waite); Backstairs Passage (Sir J. Verco).

NAXIA TUMIDA (Dana).

Vivonne Bay (Hale and Tindale).

EPHIPPIAS ENDEAVOURI, Rathbun.

South of Kangaroo Island, Investigator Strait ("Endeavour").

ERUMA HISPIDUM (Baker).

Investigator Strait (Sir J. Verco).

The five syntypes of this species are from Port Willunga, Port Lincoln, and the above locality; as the specimens are associated in the collection it is not possible to assign a definite locality to any one of them.

HUENIA PROTEUS, de Haan.

Backstairs Passage (Sir J. Verco).

The weed *Halimeda*, with which this crab is commonly associated in the tropics, has been found near the shores of Kangaroo Island.

LEPTOMITHRAX AUSTRALIENSIS, Miers.

Beare's Point, under stones at low tide (Hale and Tindale); Cape Marsden and off Marsden Point, 17 fath. ("Endeavour").

LEPTOMITHRAX STERNOCOSTULATUS (M. Edwards).

Investigator Strait, 20-30 fath. (Sir J. Verco); Cape Marsden, 17 fath., and north of Cape Borda, 40 fath. ("Endeavour").

SCHIZOPHRYS ASPERA (M. Edwards).

Investigator Strait, 20-30 fath. (Sir J. Verco).

PARAMICIPPA TUBERCULOSA, M. Edwards.

Vivonne Bay (Hale and Tindale).

Family PARTHENOPIDAE.

THYROLAMBRUS EXCAVATUS, Baker.

Investigator Strait (Sir J. Verco).

Family PORTUNIDAE.

OVALIPES BIPUSTULATUS (M. Edwards).

Vivonne Bay, 2-3 fath. (Hale and Tindale).

LIOCARCINUS CORRUGATUS (Pennant).

Investigator Strait, 20 fath. (Sir J. Verco).

NECTOCARCINUS INTEGRIFRONS (Latreille).

Beare's Point (Hale and Tindale).

NECTOCARCINUS TUBERCULOSUS, M. Edwards.

Vivonne Bay (Hale and Tindale).

Family XANTHIDAE.

MEGAMETOPE ROTUNDIFRONS (M. Edwards).

Investigator Strait, 20-30 fath. (Sir J. Verco).

ACTAEA PERONII (M. Edwards).

Investigator Strait, 20 fath. (Sir J. Verco); Sanders Bank, 28 fath., off Marsden Point, 17 fath., and north of Cape Borda, 40 fath. ("Endeavour").

ACTAEA CALCULOSA (M. Edwards).

Investigator Strait (Sir J. Verco); north coast of Kangaroo Island (W. H. Baker); off Marsden Point, 17 fath. ("Endeavour").

OZIUS TRUNCATUS, M. Edwards.

Beare's Point, under stones at low tide (Hale and Tindale); Vivonne Bay (F. Wood Jones and E. R. Waite).

PILUMNUS TOMENTOSUS, Latreille.

Beare's Point (Hale and Tindale); north coast of Kangaroo Island (A. Zietz); off Marsden Point, 17 fath. ("Endeavour").

PILUMNUS FISSIFRONS, Stimpson.

Bay of Shoals, $\frac{1}{2}$ fath., on weed, and Beare's Point (Hale and Tindale); Vivonne Bay (F. Wood Jones and E. R. Waite).

ACTUMNUS SETIFER (de Haan).

Investigator Strait and Backstairs Passage (Sir J. Verco); off Marsden Point, 17 fath. ("Endeavour").

LITOCHEIRA BISPINOSA, Kinahan.

Bay of Shoals, on weed near shore (Hale and Tindale); Vivonne Bay (F. Wood Jones and E. R. Waite).

Family PINNOTHERIDAE.

PINNOTHERES SUBGLOBOSA, Baker.

Off Marsden Point, 17 fath. ("Endeavour").

Family GRAPSIDAE.

CYCLOGRAPsus AUDOUINII, M. Edwards.

Bay of Shoals, under stones; Beare's Point, on reef; Busby Island, in holes in moist mud; Vivonne Bay, under stones on banks of Harriet River, $\frac{1}{4}$ mile from mouth, and in a cave (Hale and Tindale); American River (J. Waddy); north coast of Kangaroo Island (A. Zietz).

PARAGRAPSUS GAIMARDII, M. Edwards.

Bay of Shoals, under stones (Hale and Tindale).

BRACHYNOTUS OCTODENTATUS (M. Edwards).

Vivonne Bay, under stones on banks of Harriet River, $\frac{1}{4}$ mile from mouth, and in burrows near mouth of Harriet River (Hale and Tindale).

Juvenile examples were taken under stones, old males in the burrows; the habits of these adults are described elsewhere.⁽⁵⁾

ERIOCHEIR SPINOSUS (M. Edwards).

Heterograpsus spinosus, M. Edw., Ann. Sci. Nat., xx., 1853, p. 194, and Journ. Mus. Godeff., iv., 1874, p. 6; de Man, Notes Leyden Mus., xiii., 1891, p. 56, pl. iv., fig. 15; Ortmann, Zool. Jahrb., vii., 1894, p. 715.

Brachynotus spinosus, Fulton and Grant, Proc. Roy. Soc. Vict., xix., 1906, p. 19.

Eriocheir spinosus, Hale, Crust. S. Austr., 1927, p. 184, fig. 185.

Bay of Shoals, under stones on beach, and Busby Island, in holes in moist mud (Hale and Tindale).

This species is referred to *Eriocheir* in the abovementioned handbook, and a female is there illustrated. The chelipeds are short and weak in this sex, longer and much more robust in the male. The palms of adult males are not furnished with cuffs of hair as in the genotype of *Eriocheir*, but, as mentioned by de Man

(5) Hale, Crust. S. Austr., 1927, p. 182, figs. 183 and 184.

(*ut supra*), both fingers are provided with hairs on each side; these hairs are densely plumose. In some males they are arranged in tufts, in others they are very dense and resemble fur; in a few cases the clothing of the immovable finger extends backwards on to the palm for a short distance. The chelipeds are unarmed, but the merus of each ambulatory limb has a small spine near the distal end of the upper margin. The exopod of the external maxillipeds is only one-third the width of the ischium; the merus is subcordate, slightly wider than, but

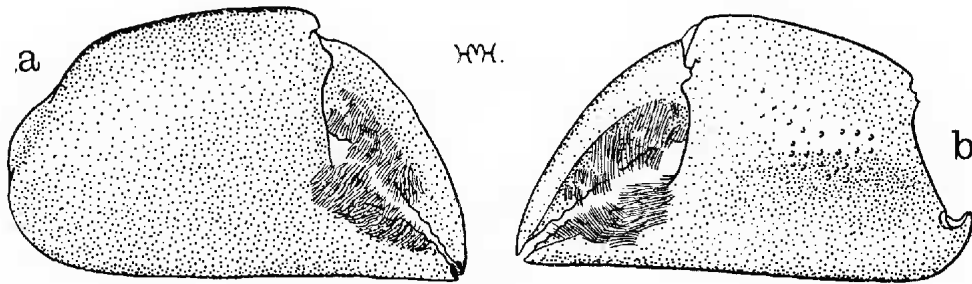


Fig. 2.

a, Outside, and b, inside of hand of adult male of *Eriochelone spinosus* with carapace 17 mm. in breadth (x 4).

only three-fourths the length of, the ischium. The largest male examined has a carapace 17 mm. in length and 20 mm. in breadth.

This little crab is common in Victoria, Tasmania, and South Australia; it is found along the banks of estuarine rivers (as well as on beaches and tidal flats), but apparently never enters fresh water above tidal influence. Mr. F. A. McNeill informs me that some specimens from "North Coast of Tasmania" labelled by Haswell "*Heterograpsus octodentatus*" are referable to *E. spinosus*; he suggests that very probably Haswell's "*Heterograpsus octodentatus*," from Port Phillip, was also *E. spinosus*.⁽⁶⁾

PLAGUSIA CHABRUS (Linnaeus).

Vivonne Bay, common in shallow water (Hale and Tindale).

Family LEUCOSIIDAE.

PHILYRA LAEVIS, Bell.

Bay of Shoals, on mud in shallow water (Hale and Tindale); American River (A. Zietz), Queenscliffe (Fox and Wiese).

The habits of this species, as observed in the Bay of Shoals, are described in another paper.⁽⁷⁾

PHLYXIA INTERMEDIA, Miers.

Off Marsden Point, 17 fath. ("Endeavour").

Order AMPHIPODA.

Many species other than the few listed below remain to be recorded from Kangaroo Island.

(6) Hasw., Cat. Austr. Crust., 1882, p. 101.

(7) Hale, S. Austr. Nat., vii., 1926, p. 67.

Family LYSIANASSIDAE.

WALDECKIA KROYERI (White).

Ephippiphora kroyeri, Chilt., Boil. Res. "Endeavour," v., 1921, p. 35, figs. 1a-1i (syn.).

North coast of Kangaroo Island (Capt. Brown).

This large species is not uncommon in South Australian waters; Chilton examined specimens from Bass Strait and west of Eucla.

WALDECKIA CHEVREUXI, Stebbing.

Sanders Bank, 28 fath. ("Endeavour").

Family STENOTHOIDAE.

STENOTHOE VALIDA, Dana.

Vivonne Bay, 2 fath. (Hale and Tindale).

A specimen from the above locality is illustrated. The life colouration of examples collected was as follows:—Yellow, closely dotted with dark brown over

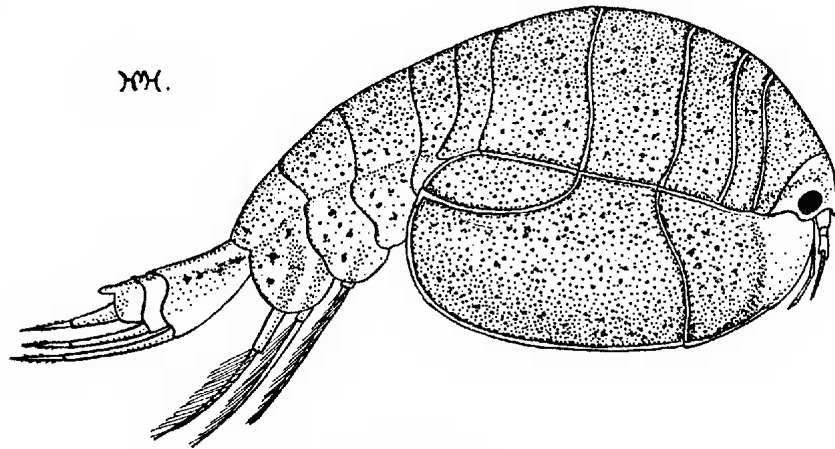


Fig. 3.

Stenothoe valida (x 16).

greater part of body; first of the visible side plates yellowish and almost transparent anteriorly, and dark brown posteriorly, the two colour areas separated by a vertical sooty marking.

Family GAMMARIDAE.

MELITA FRESNELII (Audouin).

Sanders Bank, 28 fath. ("Endeavour").

CERADOCUS RUBROMACULATUS (Stimpson).

Vivonne Bay (Hale and Tindale).

Family DEXAMINIDAE.

POLYCHERIA ANTARCTICA (Stebbing).

Sanders Bank, 28 fath. ("Endeavour").

Family TALITRIDAE.

TALORCHESTIA NOVAE-HOLLANDIAE, Stebbing.

Common on beaches (Hale and Tindale).

Family PHOTIDAE.

EURYSTHEUS ATLANTICUS (Stebbing).

Sanders Bank, 28 fath. ("Endeavour").

Family JASSIDAE.

ICILIUS AUSTRALIS, Haswell.

Sanders Bank, 28 fath. ("Endeavour").

Family CAPRELLIDAE.

CAPRELLA SCAURA, Templeton.

Vivonne Bay, 2-3 fath. (Hale and Tindale).

Order ISOPODA.

Family EURYDICIDAE.

CIROLANA CRANCHII AUSTRALIENSE, Hale.

Vivonne Bay, 1 fath., on meat trap (Hale and Tindale).

Family CYMOTHOIDAE.

CODONOPHILUS IMBRICATUS (Fabricius).

Bay of Shoals (Hale and Tindale).

A free-swimming juvenile was captured. Other Cymothoid species must occur.

Family IDOTEIDAE.

EUIDOTEA PERONII (M. Edwards).

Bay of Shoals, on weed in shallow water; Beare's Point, under stones at low tide, and Vivonne Bay, 2-3 fath. (Hale and Tindale).

EUIDOTEA STRICTA (Dana).

Shores of Kangaroo Island (old collection).

EUIDOTEA BAKERI (Collinge).

Beare's Point, on limestone reef (Hale and Tindale).

Examples taken there were dark or pale green, with the body broadly margined with white, and a series of white markings on the mid-line of the thorax.

EUIDOTEA, Collinge.

Euidotea caeruleotincta, n. sp.

♀. Non-ovigerous. Body slender, nearly eight times as long as greatest width, and very depressed. Surface slightly rugose, dull and not at all polished. Cephalon about as wide as long, almost flat and with antero-lateral angles prominent. Eyes rather large, distinctly elevated. First antennae reaching to end of second peduncular article of second antennae; second and third articles, and flagellum, subequal in length. Second antennae less than half as long as body, with the peduncle slender and much longer than flagellum; first article short, visible in dorsal view; second about three-fourths as long as third, which is subequal in length to fourth; flagellum composed of nine articles and a minute terminal style. Outer lobe of first maxillae capped with eleven strong spines, most of which are more or less denticulate, some being conspicuously comb-like

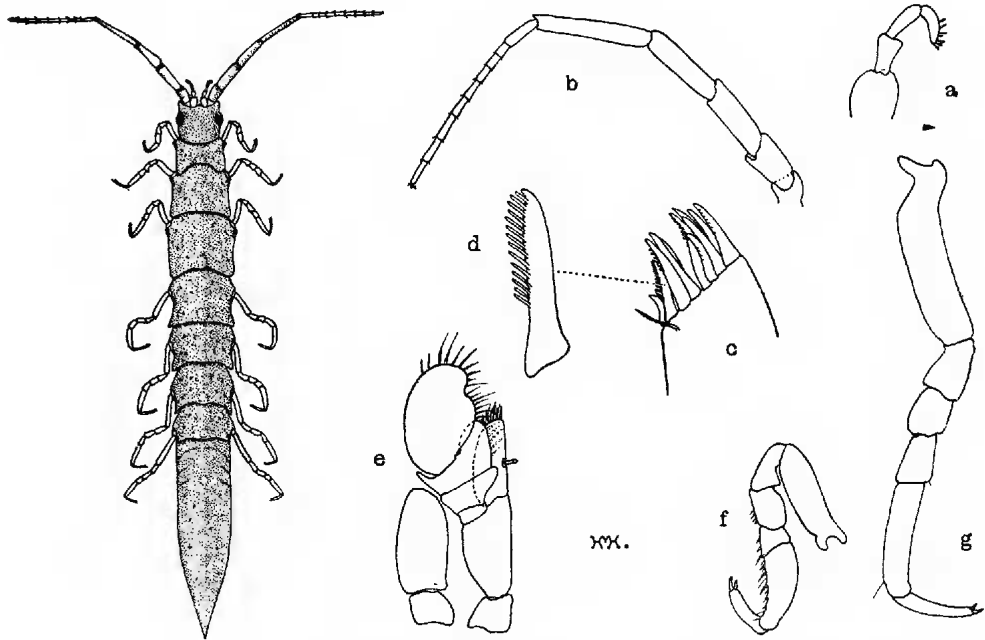


Fig. 4.

Euidotea caeruleotincta, type female (x 3): a, first antenna (x 15); b, second antenna (x 8); c, terminal part of outer lobe of first maxillae (x 86); d, one of the spines from outer lobe of first maxilla (x 260); e, maxilliped (x 21); f and g, first and seventh pereopods (x 15).

(fig. 4. d); inner lobe narrow, with three setose spines. Maxillipeds broad, with four-jointed palp; basis almost as long as last article (fourth and fifth fused joints of the palp), with inner lobe moderately wide, with spines at distal end; epipod about as long as basis, exclusive of inner lobe. Peracon with a low but distinct longitudinal median ridge; each segment rather angular. First segment narrow and short, second much larger; third segment larger than any of the others; fourth to seventh segments successively decreasing in size; postero-lateral angles of all segments slightly produced backwards, those of the last four somites subacute. Coxae of first legs completely fused with first free pereopod segment; those of second to seventh legs small, scarcely at all expanded, but visible in dorsal view. Pereopods slender, prehensile, successively increasing in length

backwards, the first pair two-thirds as long as the last. Pleon narrow, tapering to an acute apex, very flat, and with a low median ridge; unisegmentate, with a rather obscure indication of a suture across the surface near the base, and two pairs of exceedingly ill-defined short lateral furrows. Uropoda narrow, with hinder margins obliquely truncate; endopod rounded postero-laterally. Length, 23.5 mm.

Loc.—South Australia: Bay of Shoals, Kangaroo Island (H. M. Hale and N. B. Tindale). Type in South Australian Museum, Reg. No. C 869.

This species lives on the broad strap-shaped leaves of a large variety of *Posidonia australis*, which grows thickly in shallow water on the north coast of Kangaroo Island. The very flat body of the crustacean enables it to cling closely adpressed to the leaves of this plant; *Crabyzos longicaudatus* was taken in the same situation. The animal is variable in general colouration, being graminaceous, yellow or rich purplish-brown during life; some examples were beautifully mottled with the last colour, the dorsum of the pleon was crossed by four irregular pale bars, and the second antennae were broadly banded with purple. In one respect, however, all specimens agree; there is always an iridescent blue spot at the middle of the hinder part of each pereon segment and one at the first third of the pleon.

The species of *Eusymmerus*, *Erichsonella*, *Colidotea*, *Synisoma*, and *Euidotea* have the palp of the maxilliped four-jointed and all segments of the pleon coalesced. In the first two genera the flagellum of the second antennae is composed of but a single joint, and in *Colidotea* the coxal plates of the second to fourth somites are completely fused with the segments. The above species is referred to *Euidotea* rather than to *Synisoma* because the pleura of the first thoracic segment are scarcely produced laterally or forwards and the head has not well-developed lateral lobes. *E. bakeri* and *E. caeruleotincta* differ from the genotype of *Euidotea* in having the body longitudinally ridged.

In a key to the South Australian genera of the Idoteidae,⁽⁸⁾ I stated that in *Synischia* and *Crabyzos* the coxal plates are coalesced with the pereon segments. The fusion of the coxae with the body, however, is not more marked in *Crabyzos* than in many other species, but these joints are not expanded into conspicuous coxal plates. Each forms a socket into which the basis articulates and those of the second to seventh legs are slightly overridden by the feebly developed pleura of the thoracic segments, leaving a distinct suture. Suture lines between the coxae and the pleura have disappeared in *Synischia*, etc., owing to fusion; but this is not the condition in *Crabyzos*, excepting, as usual, on the first segment. The coxae of *Euidotea caeruleotincta* are much as in *Crabyzos longicaudatus*; in the last-named, however, the pleura are bent down so that the coxae are not visible in dorsal view.

CRABYZOS LONGICAUDATUS, Spence Bate.

Bay of Shoals (Hale and Tindale).

The species was taken on the same weed as the preceding form; all specimens seen here were, as usual, uniformly graminaceous, but recently some examples with pale cross bands were dredged in Gulf St. Vincent.

PARIDOTEA UNGULATA (Pallas).

Beare's Point (Hale and Tindale).

These specimens, which were taken on *Ulva*, were graminaceous in colour.

(8) Hale, Trans. Roy. Soc. S. Austr., xlviii., 1924, p. 214.

PENTIDOTEA AUSTRALIS, Hale.

Pentidotea australis, Hale, Trans. Roy. Soc. S. Austr., xlviii., 1924, p. 220, fig. 8.

The holotype, a male, was taken on the shores of Kangaroo Island. As this example lacks the greater part of the second antennae, I take the opportunity of describing a female collected this year in Portland, Victoria, by Mr. H. W. Davey. This female has well-developed young in the brood-pouch. The body is wider than in the male, four and one-half times as long as greatest width, and is widest at the third and fourth pereaeon segments. The whole upper surface of the body is covered with almost confluent brown dots; the legs and the underside are marked with distinctly separated brown spots. The second antennae of the right side is abnormal; the flagellum of the left antenna is short and consists of fourteen articles and a terminal style. Other characters are as in the example previously recorded. The juveniles in the marsupium are approximately 5 mm. in length. They have the head wider than the thorax, and the eyes relatively

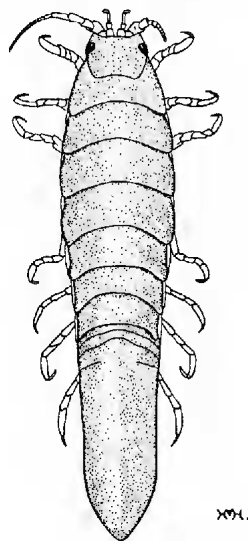


Fig. 5.

Pentidotea australis, adult female ($\times 14$).

larger and more protuberant than in the adult. The flagellum of the second antennae consists of two articles and a minute terminal style. Length of female, 50 mm.

Family SPHAEROMIDAE.

EXOSPHAEROMA BICOLOR, Baker.

Exosphaeroma bicolor, Baker, Trans. Roy. Soc. S. Austr., l., 1926, p. 249, pl. li., figs. 8-10, and pl. lii., figs. 1-5.

Bay of Shoals (type loc., Hale and Tindale).

The holotype and a number of paratypes were collected off Reeves' Point in shallow water, most of the specimens being taken in places where the bottom consists of broken shell. When crawling over, or resting on, *débris* of this sort, the animals were difficult to detect owing to their protective colouration. The legs and underside were white, but the upper surface was variable in colour; seven colour varieties were noted in the series secured. During life the dorsum of these was (a) uniformly greyish-black; (b) brown, with a white stripe on

each lateral margin of thorax; (c) greyish-blue, broadly margined with white and with a yellow stripe on whole length of mid-line of body, interrupted for a short space at first third of pleon; (d) uniformly pale grey; (e) white, with large brown mottlings on mid-line of thorax and at base of pleon; (f) white, more or less densely covered with fine brown mottlings excepting on margins; (g) uniformly white.

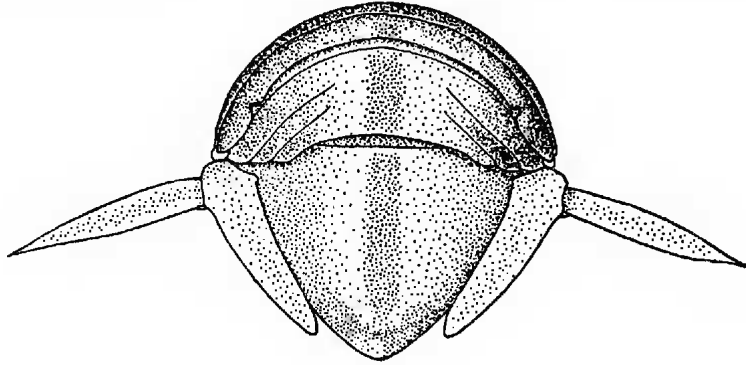


Fig. 6.

Exosphaeroma bicolor, attitude when alarmed (x 9).

The animal rolls into a sphere when disturbed, with the exopods of the uropods directed outwards (fig. 6).

ZUZARA VENOSA (Stebbing).

Bay of Shoals, very common under stones, etc. (Hale and Tindale).

CYMODOCE LONGICAUDATA, Baker.

Bay of Shoals, in shallow water (Hale and Tindale).

This species was so plentiful in parts of the Bay that we were able to fill a quart bottle with specimens after half an hour of hand dredging amongst *Zostera*.

PARACILICAEA HAMATA (Baker).

Vivonne Bay, 3 fath. (Hale and Tindale).

AMPHOROIDELLA ELLIPTICA, Baker.

Beare's Point, shallow water, on surface of living sponges (Hale and Tindale).

The creatures moved over the surface of the sponges with a rather slow, gliding motion, and greatly resembled small chitons. They were translucent during life, with faint fleckings and mottlings, or were uniformly whitish.

CERCEIS ACUTICAUDATA, Haswell.

Bay of Shoals, 0-1 fath. (Hale and Tindale).

Common amongst *Posidonia* in the Bay. The species is dark olivaceous or dark green during life, with head, sides of thorax, two ill-defined bars on thorax and one on pleon, mottled and spotted with white. When taken out of water and placed on a firm surface the animal is able to spring actively; this is accomplished by suddenly snapping the pleopods away from the pleon, the action producing a

faint "click." It swims extremely rapidly, but crawls slowly on shore; when placed on the beach it sometimes progresses in a series of short leaps (with the aid of the pleopods as described) or springs smartly back into the water.

ONISCOIDEA.

A new Scyphacid, which occurs commonly on sandy beaches of southern Australia, was taken by Mr. Tindale and myself on the shores of the island; Dr. Chilton examined specimens of this species some years ago, and intends to describe it.

On the island are numerous inland and coastal lakes, some of which contain permanent brackish or salt water; in some cases the water is derived directly from the sea, in others it is not. From all accounts these lakes are very similar to those of the mainland—weed and the mollusc *Coxiella* are present and so on—but, unfortunately, we had no opportunity of visiting any of them. A search of these waters may result in the capture of the interesting aquatic Oniscid *Haloniscus searlei*.⁽⁹⁾ This species, which was first taken in a salt lake in Victoria, is common in the very salt water of the Pool of Siloam at Beachport, and residents of the south-eastern districts state that they have seen similar creatures in other salt lakes. The Beachport specimens were recently described under the name *Philoscia salina*, by Mr. Baker,⁽¹⁰⁾ the Victorian record being overlooked.

Family ONISCIDAE.

PORCELLIO LAEVIS, Latreille.

Kangaroo Island, no definite locality (W. H. Baker).

PORCELLIONIDES PRUNIOSUS (Brandt).

Kangaroo Island, no definite locality (W. H. Baker).

Family ARMADILLIDIDAE.

CUBARIS AMBITIOSUS, Budde-Lund.

Kangaroo Island, no definite locality (W. H. Baker); Kelly Hill, at mouth of caves (Hale and Tindale).

Family SCYPHACIDAE.

DETO MARINA (Chilton).

Shores of Kangaroo Island (W. H. Baker).

Family LIGIIDAE.

LIGIA AUSTRALIENSIS, Dana.

Vivonne Bay, in cave and on beach (Hale and Tindale).

A male from the above locality is figured. In this the second antennae are distinctly longer than the whole body, exclusive of the uropods; the proportions of the last three joints of the peduncle are 16:41:56, and the slender flagellum consists of twenty-six elongate articles. The first two pairs of legs are imperfectly subchelate, and there is no process on the propodus of any of the anterior limbs. The posterior margin of the telson is triangulate; the postero-lateral processes are

(9) Chilton, Proc. Linn. Soc. N.S. Wales, xlv., 1919, p. 724, figs. 1-20.

(10) Baker, Rec. S. Austr. Mus., iii., 1926, p. 145, fig. 77.

short and acute, and the accessory processes are well marked, subtriangular in shape. Length, 12 mm.

The *Ligia* here referred to Dana's species is common at Vivonne Bay. A great many individuals were uncovered when boulders were overturned in a cave in the cliff; when disturbed the Isopods scattered in all directions and quickly

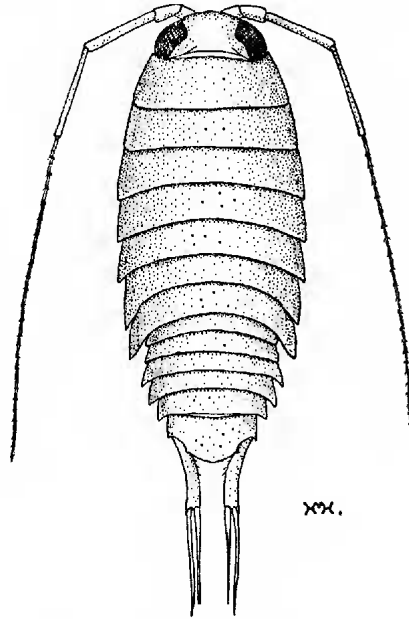


Fig. 7.

Ligia australiensis, adult male (x 5).

disappeared under the neighbouring stones and *débris*. Towards sunset and during the evening hundreds of examples were noticed on rocks near the sea and on the sandy beach, but few specimens were seen in these places during the day.

Order MYSIDACEA.

Family MYSIDAE.

AUSTRALOMYSIS INCISA, Sars.

Vivonne Bay, 3-3½ fath. (Hale and Tindale).

SIRIELLA (?) AUSTRALIS, Tattersall,

Bay of Shoals, ½ fath. (Hale and Tindale).

Order CIRRIPEDIA.

LEPAS ANSERIFERA, Linnaeus.

Vivonne Bay, on beach (Hale and Tindale).

LEPAS HILLII (Leach).

Vivonne Bay, on beach (Hale and Tindale).

IBLA QUADRIVALVIS (Cuvier).

Bay of Shoals, moderately common in shallow water (Hale and Tindale).